REMARKS/ARGUMENTS

Claims 1-4 and 6-11 were pending. Claims 1, 2, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Serizawa (EP 0872266 A1) in view of Yoshida (EP 1029569 A2).

Claim 10 was rejected under 35 U.S.C. 101. For sake of compactness in prosecution, claim 10 is cancelled, for possible renewal at a later date.

Claim 3 was rejected under 35 U.S.C. 112 ¶2. In response, claim 3 was amended to correct the error in the claim language.

Embodiments of the present invention are premised on the matters described below, as is specifically disclosed in page 16, line 19 to page 17, line 27 of the specification and in Fig. 7.

Initially, it is noted that "passage number" is associated with a specific portion of a track (a segment region), not a moving object. Additionally, "passage number" refers to the number of times moving objects pass over that specific portion of the track (a segment region.) Specifically, the specification states:

> In the game apparatus according to the present invention, the storage unit may store, as the road condition, a passage number representing a number of times the moving object passes through a predetermined position on the road, the update unit may update the stored passage number of the moving object in accordance with a change in the stored position of the moving object, and the display unit may further display an image which is changed in accordance with the stored passage number of the moving object. P.5, l.11-16.

Further, claim 1 specifically recites: "a passage number representing a number of times the moving object passed at the stored position…"

Accordingly, as seen, the term "passage number" is not associated with a moving object

In various embodiments, as illustrated in the example in Figs, 6 and 7, line segments 403 extend between the edges of the road. Additionally, each of the line segments 403 are further divided into line segment regions 404. As illustrated in the example in Fig. 7, for each neighboring pair of the line segments, the end points of the regions of the first line segment of the pair and the end points of the regions of the second line segment of the pair are connected sequentially from both the edges of the pair. Accordingly, quadrilateral areas or triangular areas are defined. In the example in Fig. 7, each area may be associated with a number.

As can be seen in the example in Fig. 5, in table 501, the left most column is the line segment number "18," corresponding to one of line segment 403, and a region number "3," referring to one of the quadrilateral areas or triangular areas that are defined. Also illustrated in the right most column is a "passage number" that is associated with that line segment number, and region number.

In various embodiments of the present invention, based upon the stored position of the moving object, the calculation unit determines in which quadrilateral area or triangular area the moving object is included. Next, as described in some embodiments, where the moving object is included in a quadrilateral area, the calculation unit estimates a number of times the moving object at the stored position (of the moving object) from the two stored passage numbers associated with the two regions number of the line segments that form the quadrilateral area. In a case where in the moving object is in a triangular area, the stored passage number associated with one region number of the line segments that form of the triangular area is used.

Accordingly, in various embodiments, while the load is divided into triangular or quadrilateral areas, in both the direction along the load and a direction crossing the load, it is only required that the number of passage through the regions that constitute and edge of the area is used for computational purposes.

The Examiner appears to acknowledge that this structure is not disclosed in Serizawa. It is pointed out that the "pass counts" cited by the Examiner in Serizawa has nothing to do with "passage numbers," as recited in the present claims. Specifically, "pass counts" are associated with users, and indicate the number of times a driver passes another driver. As stated in Col. 23, l.35-42:

A pass count system that is a suitable method of deciding victory and defeat for the free entry system is now described with reference to Fig. 18 through 20 … the method used (pass point system) is to terminate a game on the basis of points cored by passing or being passed. Emphasis added.

As can be seen, the "pass counts" are not associated with a specific portion of the track, but to users, to determine who is the best "passer." Accordingly, Serizawa, Figs. 19 and 20, are not even relevant to the pending claims of the present invention.

Yoshida does not make-up for the deficiencies of Serizawa. In Yoshida, the road is divided into a plurality of blocks (quadrilateral areas), and the number of passage is totaled for each block (quadrilateral area). These blocks are aligned simply in one line, as illustrated in Fig. 6(a). Each block borders on two blocks: its previous block and the next block. This point is clear from the fact that the Examiner acknowledged the following matters:

> Yoshida discloses estimating the next block a vehicle will travel on based on the block the vehicle is currently on (paragraph 0015)… if the vehicle were currently in a region which has been passed through 4 times, it would be obvious that the next region would have been passed through 3 times…

However, embodiments of the present invention have a higher level of granularity dividing a large quadrilateral 402 in Fig. 6 into a number of smaller regions, as illustrated in Fig. 7. In various embodiments of the present invention, in a case where the moving object is included in a quadrilateral area, the calculation unit estimates a number of times the moving object at the stored position of the moving object from the two stored passage numbers of the two region of the quadrilateral area, and in a case where in a triangular area, from one stored passage numbers of the one region of the triangular area. As an example, in Fig. 7 regions having triangular area, such as the triangle RCS and triangle SCT are defined. Accordingly, only one line segment 403 is relevant, and only one "passage number" would be used for computation purposes for a vehicle located in a triangular area.

In contrast to Yoshida, that reference merely contemplates quadrilateral regions, therefore Yoshida's techniques cannot be applied.

Further, in a case where the moving object is included in a quadrilateral area and the passage numbers of the facing regions are not the same, interpolation is performed as disclosed in the specification, and the number of times is evaluated.

Accordingly, the present invention proposes a method for estimating a passage number for a desired portion for which passage number is not recorded, in accordance with the length and the width directions. However, such a technique is not disclosed in any one of the cited documents.

In light of the above, and for other reasons, independent claims 1, 9 and 11, as amended, are asserted to be allowable.

Claims 2-4 and 6-8, dependent upon claim 1 are also asserted to be allowable for substantially the same reasons as claim 1, and more specifically, for the additional limitations they recite.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

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